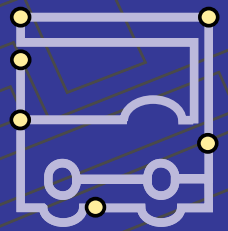


Transitworks!

CONNECTING OUR COMMUNITY



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Transit. It Works!

The Santa Barbara Metropolitan Transit District (MTD) has been providing quality transit on the South Coast for over 30 years and is a recognized leader in the transit industry. As we look to the future, the Santa Barbara area can expect even better service, such as innovative routes, state-of-the-art electric vehicles, enhanced bus stops, and advanced digital communications all in an effort to blend transit into the ambiance of our community.

As MTD begins this endeavor, a creative shift is occurring which has prompted the creation of a new transit theme, *Transitworks!* *Transitworks!* is a market-driven approach to planning effective bus services that are widely marketed to non-traditional riders. Although public transit is not something normally considered glamorous or newsworthy, when partnered with the right organization it can become just that. *Transitworks!* looks forward to partnering with local organizations, both public and private, as we all work towards the common goal of improving mobility on the South Coast. Remember, *Transit. It Works!*

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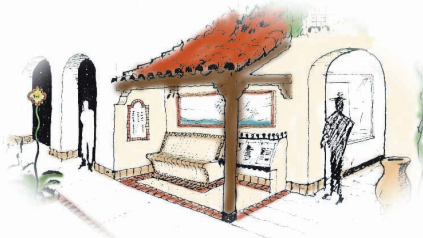
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Experiencing the Electric Avenue

When too many cars choke the community, public transit can create new solutions. The solutions that work successfully are those that take their cues from the appeal of the private automobile – speed, flexibility, comfort, control, and convenience. MTD is meeting that challenge by developing transit amenities and strategies that individually improve transit service and collectively balance the choice between driving a car and taking a bus. The Electric Avenue is a realistic yet innovative transit concept for Santa Barbara.

Picture yourself at your Westside home. You plan to meet a friend for lunch on the Eastside. Although you could drive your car, you know finding a parking space is getting more and more difficult. You decide instead to go to the corner bus stop.



The bus stop is easy to find with its recognizable design. As a matter of fact, all of the bus stops in your neighborhood have the same look and feel, blending well with the surrounding homes, corner markets, and parks. The shelter and bench provide a safe and comfortable place to rest and this particular stop even has a system-wide bus map and a courtesy telephone providing direct access to one of MTD's customer service representatives.

A small, quiet, non-polluting electric shuttle pulls up to the bus stop. Maybe due to its pedestrian-scale or almost non-audible approach, the folks outside the market don't even notice. How convenient, you think, that these little shuttles are traversing between the Eastside and Westside frequently, every 7-8 minutes, more than twice as often as conventional bus routes.



Transitworks! is a newsletter produced by the Santa Barbara Metropolitan Transit District.

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Shop to Shore in Carpinteria!



The MTD electric shuttle is returning to Carpinteria! The shuttle service, which served the City so well in the summer of 1998 begins expanded year-round service this summer. Two, brand new, battery-electric shuttles will be traveling the streets of Carpinteria from the foothills to the sea. The *Seaside Shuttles*, as they will be known, will run every thirty minutes from the early morning through the evening hours. Convenient stops will be located in neighborhoods and throughout the downtown area. Passengers will be able to easily hop on a quiet electric shuttle to go shopping, head into town for lunch, or even connect to one of MTD's buses traveling to Santa Barbara and beyond.

The *Seaside Shuttles* are an example of how *Transitworks!* in this community. MTD thanks the City of Carpinteria for so willingly providing input throughout the creative design process. Everything from architectural elements and colors from the downtown area to underlying color schemes throughout the community are being incorporated into the new shuttles so that they will blend with the distinct and quaint elements of Carpinteria. Watch for more exciting news as MTD and the City of Carpinteria prepare for this new transit service!

"We are excited about connecting the neighborhoods with the downtown area of Carpinteria."

- Lin Graf, Executive Director,
Carpinteria Chamber of Commerce

Take a *Field Trip* This Summer



SB County Courthouse

Santa Barbara is a privileged city that offers many diverse cultural attraction venues. Beginning in May, MTD is going to make it easier to travel to and from such picturesque and historical sites as the Santa Barbara County Court House, the Santa Barbara Mission, the Museum of Natural History, El Presidio, the Santa Barbara Museum of Art, and the Botanic Garden.

The Field Trip is a 26-foot, battery-electric bus that will run this summer from the waterfront to the Natural History Museum in Santa Barbara's foothills, continuing up to the Botanic Garden upon request. A new "on-demand" service will be implemented for visitors of the Botanic Garden. The on-demand service will include a direct telephone line to an MTD customer service representative who will immediately notify *The Field Trip* driver. MTD is very excited about this new on-demand service component and looks forward to implementing this concept in other remote locations throughout MTD's service area.



Bud Bottoms'
Dolphin Fountain

The Field Trip is a wonderful example of a *Transitworks!* project demonstrating what can be achieved through active partnerships with key organizations and businesses throughout the Santa Barbara community. The Santa Barbara Botanic Garden, a *Transitworks!* partner, is working with MTD to actively promote the service as part of their advertising campaign for a new exhibit arriving this summer. Additionally, a large portion of the marketing budget is coming from the "Take a Vacation From Your Car Project", a grant designed to encourage tourists to leave their vehicles behind when touring Santa Barbara. The Air Pollution Control District, another *Transitworks!* partner, is also working with MTD to provide the necessary operating dollars to fund this first demonstration of the service. Other marketing partners along the route are currently being negotiated.

MTD is pleased with the community's enthusiasm and is confident *The Field Trip* will be a value-added service for Santa Barbara residents and tourists. Be sure to hop on *The Field Trip* this summer and see the best that Santa Barbara has to offer.



El Presidio

Experiencing the Electric Avenue

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As you travel from your neighborhood through the downtown corridor and on to the Eastside you notice that the bus stops seem to capture the ambiance of each area. While the stops fit well within the individual communities the overall Electric Avenue concept is tied together neatly with a consistent, appealing, and identifying graphic theme.

As you disembark on the Eastside at a creatively designed, cornstalk-themed bus stop, which coincides with a city-designed theme for the area, you realize that you have just experienced an attractive and effective transit service that connects important activity centers while improving the community's ambiance. The Electric Avenue is a viable transit solution.

On the Bus Front

Transit buses of the future will have one thing in common: an electric motor will make their "wheels go 'round and 'round." Electric motors are more efficient, more powerful and more economical. Supplying the electric motor with electricity is a more difficult challenge. The alternate solutions to this challenge is the subject of this article. Future articles will discuss the electric motor, recharge devices, and vehicle aesthetics. MTD will also describe modern electric bus deployment strategies that will improve passenger information and travel planning.



Example of an electric motor.

Batteries have supplied MTD's electric bus fleet with its energy for over 1,000,000 miles of service. Over the last ten years, MTD has used several types of lead acid batteries and placed the first nickel-cadmium (NiCad) battery in service. The price of the NiCad battery has dropped 50% since first introduced and along with its superior cycle-life, competes equally with the price of the lead acid battery while having superior energy density. New battery chemistries such as lithium-ion, lithium polymer, nickel-metal hydride and sodium-nickel chloride are coming to market with the promise of further increases in energy density.



Example of a sodium-nickel chloride battery.

The capacity of the battery can be supplemented with in-service recharges. MTD recently demonstrated the ability to maintain a full day of service with a low capacity battery by recharging it at high power while still in service. Six minute duration recharges every 70 minutes proved to be an inexpensive alternate to on-board, high energy density battery configurations. Battery thermal management, along with battery type and



Example of an electric vehicle fast charge station.

capacity, also factor into an optimal mix of charge rate, duration, and frequency of a rapid recharge strategy.

Many electric bus applications anticipate the commercialization of fuel cells. These devices create electricity on board the vehicle and either recharge a limited battery capacity, supplement battery energy, or supply all the electricity an electric bus needs during a day of service. The by-product of this clean, quiet alternate to large capacity batteries is water vapor. MTD will be demonstrating its own fuel cell powered bus beginning this Fall.



Fuel cell powered bus.

Hybrid electric buses are an effective interim step to fuel cells. As most cities do not enjoy the temperate climate of Santa Barbara, they must devote a significant portion of their energy budget to heating and air conditioning. Where many local strategies look ahead to the commercialization of the fuel cell and/or when a substantial portion of the energy budget must be shared with heating, ventilating, and air conditioning (HVAC), the hybrid bus is a good alternate with far less emissions than compressed natural gas (CNG) or liquid natural gas (LNG) fueled buses. Like the fuel cell, a hybrid recharges a battery, supplements battery energy, or supplies all of the electricity an electric motor requires to operate over the course of a day. Both parallel and series hybrid buses use an internal combustion engine (ICE) to turn the generator and make electricity. Recent successes with gas turbines may prove to be better and even overcome some of the drawbacks of the ICE-based hybrid.

MTD's marketing intentions emphasize the quiet as well as the clean. Hybrid bus ICE engines are noisier than the all electric alternates. Hybrids do remain an attractive interim solution to the fuel cell, in-service recharge or high energy density batteries, while accruing the emission benefits of an electric motor.

Santa Barbara's attractive climate and its leadership in the development and use of electric buses gives it many paths to the future bus. The transit bus of the future will attract more riders, earn more income, and reduce the demand to build and maintain limitless miles of highway.

New Fareboxes Coming to Town!

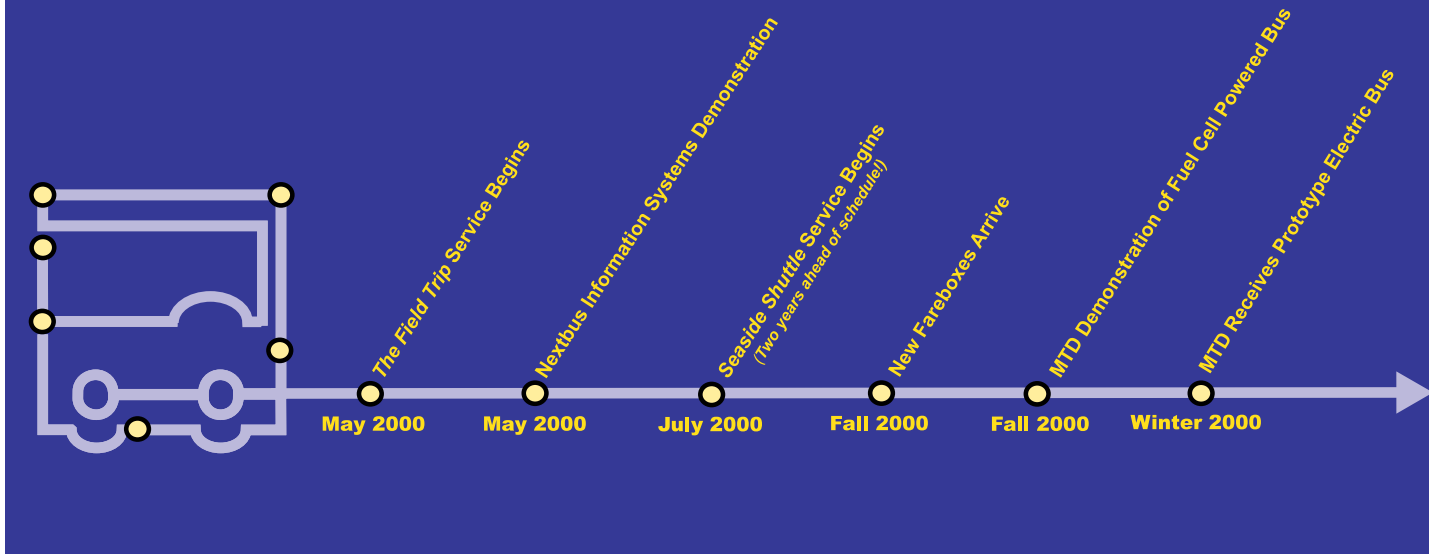


New fareboxes due this Fall.

The Santa Barbara Metropolitan Transit District's (MTD) existing farebox system has been in place for 13 years. The capabilities offered by the existing system are not up to current technological standards and the system constrains MTD's ability to offer new and more flexible payment methods. With the support of the City of Santa Barbara and the Santa Barbara County Association of Governments, MTD was able to secure funding for the purchase of new fareboxes that will enhance the transit agency's ability to offer new payment methods as well as improve the acquisition of passenger information.

A contract was recently awarded to GFI Genfare a farebox manufacturer located in Elk Grove Village, Illinois. Delivery of the prototype system is due during the summer at which time MTD will subject the equipment to testing to determine that it meets specifications and is free of manufacturing material defects and is suitable for installation and use in revenue service. Upon completion of testing, GFI will have 60 days to make any corrections necessary. MTD anticipates final delivery and installation of the fareboxes by September of this year.

Transitworks! Rolling Ahead



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